

In re Appln. of Tadao YAMAGUCHI
Application No. 09/924,770

REMARKS

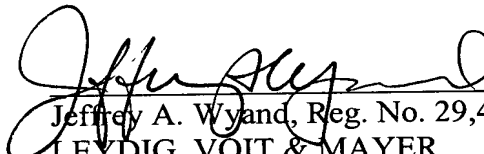
In response to the Examiner's Action mailed November 5, 2002, Applicant amends his application and requests reconsideration. In this Amendment no claims are cancelled and claim 11 is added. Accordingly, claims 1-11 are now pending.

In this Amendment, claim 1 is made generic as to claims 7 and 8 as well as to newly added claim 11.

In response to the Official Action imposing a species election requirement, Applicant elects the alleged species A, encompassing Figures 1-3, and 7. Amended claims 1-6, 9, and 10 pertain to this figure. The Examiner acknowledged that claim 9 is a generic claim. In addition, claim 1, as amended, is generic as to claims 7, 8, and 11. Accordingly, all claims should now be examined. Even if all claims are not examined, upon the allowance of claim 9 and/or claim 1, any claims not examined should be rejoined to the prosecution.

Favorable examination is earnestly solicited.

Respectfully submitted,


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JAW/tph



PATENT
Attorney Docket No. 401338/Y.P. LEE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Tadao YAMAGUCHI

Application No. 09/924,770

Art Unit: 2834

Filed: August 9, 2001

Examiner: T. Lam

For: DISC TYPE ECCENTRIC ROTOR AND
FLAT VIBRATOR MOTOR HAVING
THE ROTOR DISC TYPE
ECCENTRIC ROTOR AND FLAT
VIBRATOR MOTOR HAVING THE
ROTOR

AMENDMENTS TO CLAIMS
MADE IN RESPONSE TO OFFICE ACTION DATED NOVEMBER 5, 2002

Amendments to existing claims:

1. (Twice Amended) A disc-shaped eccentric rotor having at least ~~two~~ one air-core ~~coils~~ coil and generating a difference in centrifugal forces by the rotation of the rotor, the rotor comprising:

- a flat commutator member having a central shaft insertion through hole;
- a plurality of commutator land segments located around the shaft insertion through hole on a first side of the flat commutator member;
- ~~wound air-core coil arrangement guides outside the shaft insertion through hole on a second side of the flat commutator member;~~
- air-core coil end portion connection lands arranged circumferentially on ~~the~~ a second side of the ~~type flat~~ flat commutator member;
- a shaft holder installed around the shaft insertion through hole on the second side of the flat commutator member; and
- at least one wound air-core ~~coils~~ coil installed at the wound air-core coil arrangement guides and having end portions connected to the air-core coil end portion connection lands.

2. (Twice Amended) The rotor as claimed in claim 1, including at least two air-core coils, wherein the air-core coils are radially arranged at an angular interval and at least one air-core coil is a printed wiring air-core coil.

5. (Twice Amended) The rotor as claimed in claim ~~4~~ 11, including wound air-core coil arrangement guide apertures and reinforcement holes on the ~~printed wiring~~ flat commutator member, wherein the reinforcement holes and the wound air-core coil arrangement guide apertures are respectively connected through grooves.

6. (Twice Amended) The rotor as claimed in claim ~~4~~ 11, wherein the air-core coils comprise two printed wiring air-core coils and one wound air-core coil, the air-core coils do not overlap one another, and the shaft holder and the wound air-core coil arrangement guides are integral with the flat commutator member.

7. (Twice Amended) ~~A disc-shaped eccentric. The rotor having at least one wound air-core coil and generating a difference in centrifugal forces by the rotation of the rotor, the rotor as claimed in claim 1, comprising:~~
~~a flat commutator member having a central shaft insertion through hole;~~
~~a plurality of commutator land segments located around the shaft insertion through hole on a first side of the flat commutator member;~~
~~a shaft holder installed around the shaft insertion through hole on the second side of the flat commutator member;~~
~~wound air-core coil end portion connection lands arranged circumferentially on the second side of the flat commutator member;~~
~~at least one wound air-core coil installed outside the shaft holder on the second side of the flat commutator member and having end portions connected to the wound air-core coil end portion connection lands; and~~
a tungsten alloy eccentric weight within the wound air-core coil on the second side of the flat commutator member and adhered to the flat commutator member with a resin.



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For: DISC TYPE ECCENTRIC ROTOR AND
FLAT VIBRATOR MOTOR HAVING
THE ROTOR

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**PENDING CLAIMS AFTER AMENDMENTS
MADE IN RESPONSE TO OFFICE ACTION DATED NOVEMBER 5, 2002**

1. A disc-shaped eccentric rotor having at least one air-core coil and generating a difference in centrifugal forces by the rotation of the rotor, the rotor comprising:
 - a flat commutator member having a central shaft insertion through hole;
 - a plurality of commutator land segments located around the shaft insertion through hole on a first side of the flat commutator member;
 - air-core coil end portion connection lands arranged circumferentially on a second side of the flat commutator member;
 - a shaft holder installed around the shaft insertion through hole on the second side of the flat commutator member; and
 - at least one wound air-core coil installed at the wound air-core coil arrangement guides and having end portions connected to the air-core coil end portion connection lands.
2. The rotor as claimed in claim 1, including at least two air-core coils, wherein the air-core coils are radially arranged at an angular interval and at least one air-core coil is a printed wiring air-core coil.
3. The rotor as claimed in claim 2, wherein the air-core coils comprise one printed wiring air-core coil and two wound air-core coils, and the air-core coils do not overlap one another.
4. The rotor as claimed in claim 2, wherein the air-core coils comprise two printed wiring air-core coils and one wound air-core coil, and the air-core coils do not overlap one another.

5. The rotor as claimed in claim 11, including wound air-core coil arrangement guide apertures and reinforcement holes on the flat commutator member, wherein the reinforcement holes and the wound air-core coil arrangement guide apertures are respectively connected through grooves.

6. The rotor as claimed in claim 11, wherein the air-core coils comprise two printed wiring air-core coils and one wound air-core coil, the air-core coils do not overlap one another, and the shaft holder and the wound air-core coil arrangement guides are integral with the flat commutator member.

7. The rotor as claimed in claim 1, comprising a tungsten alloy eccentric weight within the wound air-core coil on the second side of the flat commutator member and adhered to the flat commutator member with a resin.

8. The rotor as claimed in claim 7, wherein at least one printed wiring coil is located at a position of the flat commutator member where the eccentric weight is located.

9. A flat vibrator motor comprising:
a disc-shaped eccentric rotor having at least one air-core coil and generating a difference in centrifugal forces by the rotation of the rotor,
a shaft supporting the eccentric rotor;
a magnet providing a magnetic field for the rotor via an axial gap between the magnet and the rotor,
a brush inside the magnet providing electric power to the air-core coil through the flat commutator member, and
a housing accommodating the rotor, the shaft, the magnet, and the brush.

10. The vibrator motor as claimed in claim 9, wherein the shaft is fixed at a first side of the housing and including a member for preventing the eccentric rotor from moving in a radial direction installed at a second side of the housing.

11. The rotor as claimed in claim 1, further comprising wound air-core coil arrangement guides outside the shaft insertion through hole on the second side of the flat commutator member.